frame, and a rotation shaft driven by the rotation drive and characterized by an amount of axial float, the makeup/breakout system comprising:

a biasing member positioned to urge the rotation shaft to a center float position;

a float sensor adapted to determine the amount of float in the rotation shaft and to transmit a float signal; and

a connection controller adapted to receive the float signal and to coordinate thrust and rotation in response to the float signal.

2. (Previously presented) The system claim 1 wherein the float sensor comprises:

a sensor rod attached to the drive frame; and

a magnet coupled to the rotation shaft and adapted to move along the sensor rod; wherein the float signal is representative of a position of the magnet on the sensing rod.

3. (Previously presented) The system of claim 1 wherein the float sensor comprises:

a sensor rod attached to the rotation shaft; and

a magnet coupled to the drive frame and adapted to move along the sensor rod; wherein the float signal is representative of a position of the magnet on the sensing rod.

4. (Previously presented) The system of claim 1 wherein the biasing member comprises a first spring positioned proximate at an aft end of the rotation drive and a second spring positioned proximate a fore end of the rotation drive.

5. (Previously presented) The system of claim 1 wherein the connection controller is further adapted to send a signal to the drive system to limit thrust to a predetermined amount when the spindle is not rotating and is being moved toward or from the drill string.

6. (Previously presented) The system of claim 5 wherein the thrust is limited to 60% of a maximum output.

7. (Currently amended) [The system of claim 1]A makeup/breakout system for use with a horizontal boring machine having a drive system, a drill string comprised of pipe sections connectable at threaded pipe joints, and a spindle for connecting the drill string to the drive system, the drive system being comprised of a drive frame, a rotation drive mounted to the drive frame, and a rotation shaft driven by the rotation drive and characterized by an amount of axial float, the makeup/breakout system comprising:

a biasing member positioned to urge the rotation shaft to a center float position;

a float sensor adapted to determine the amount of float in the rotation shaft and to transmit a float signal; and

a connection controller adapted to receive the float signal and to coordinate thrust and rotation in response to the float signal;

wherein the connection controller is further adapted to calculate a thrust output based on a rotation output.

8. (Previously presented) The system of claim 1 wherein the connection controller is further adapted to send a signal to the drive system to adjust thrust to an amount calculated based upon the float signal indicative of the amount of float.

9. (Previously presented) The system of claim 2 wherein the connection controller is further adapted to send a signal to the drive system to stop thrust if the float signal indicates the float has reached a front limit and the drive system is pulling back or if the float signal indicates the float has reached a rear limit and the drive system is pushing forward.

10. (Previously presented) The system of claim 2 wherein the connection controller is further adapted to send a signal to the drive system to stop rotation if the float signal indicates the float has reached a front limit and the spindle is rotating clockwise or if the float signal indicates the float has reached a rear limit and the spindle is rotating counterclockwise.

11. (New) The system of claim 7 wherein the connection controller is further adapted to send a signal to the drive system to adjust thrust to an amount calculated based upon the float signal indicative of the amount of float.

12. (New) The system claim 7 wherein the float sensor comprises:

a sensor rod attached to the drive frame; and

a magnet coupled to the rotation shaft and adapted to move along the sensor rod; wherein the float signal is representative of a position of the magnet on the sensing rod.

13. (New) The system of claim 7 wherein the float sensor comprises:

a sensor rod attached to the rotation shaft; and

a magnet coupled to the drive frame and adapted to move along the sensor rod; wherein the float signal is representative of a position of the magnet on the sensing rod.

14. (New) The system of claim 7 wherein the biasing member comprises a first spring positioned proximate at an aft end of the rotation drive and a second spring positioned proximate a fore end of the rotation drive.

15. (New) The system of claim 7 wherein the connection controller is further adapted to send a signal to the drive system to adjust thrust to an amount calculated based upon the float signal indicative of the amount of float.

16. (New) The system of claim 7 wherein the connection controller is further adapted to send a signal to the drive system to stop thrust if the float signal indicates the float has reached a front limit and the drive system is pulling back or if the float signal indicates the float has reached a rear limit and the drive system is pushing forward.

17. (New) The system of claim 7 wherein the connection controller is further adapted to send a signal to the drive system to stop rotation if the float signal indicates the float has reached a front limit and the spindle is rotating clockwise or if the float signal indicates the float has reached a rear limit and the spindle is rotating counterclockwise.